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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,268	07/29/2003	Paul G. Cairns	414-29494-US	6684
24923	7590	04/13/2005	EXAMINER	
PAUL S MADAN MADAN, MOSSMAN & SRIRAM, PC 2603 AUGUSTA, SUITE 700 HOUSTON, TX 77057-1130			TSAY, FRANK	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/629,268

Applicant(s)

CAIRNS ET AL.

Examiner

Frank S Tsay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/29/03, and 8/6/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 and 30-33 is/are allowed.
- 6) ☒ Claim(s) 18-20 and 23-28 is/are rejected.
- 7) ☒ Claim(s) 21, 22, 29 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/7/03, 3/8/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20, 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Dowell et al (US 5,899,958).

Dowell et al discloses a logging while drilling apparatus and methods of using the same, which comprises all of the claimed invention including using a directional sensor 40 in the downhole logging tool assembly 50 for obtaining the tool-face angle or the assembly (col. 8, line 47- col. 9, line 15). The downhole tool assembly is anticipated rotatable since the tool assembly is to be used during rotations (see col. 12, lines 14+, and col. 13, lines 52+). Col. 11, lines 51-67, and col. 12, lines 14-21, where the directional sensors 40 are used for obtaining measurements over a predetermined time intervals, meet the step of using directional sensitive evaluation device for obtaining measurements indicative of the parameter of interest. The step of using at least one processor for determining the tool face angle is anticipated by the downhole processing unit 150, which is used to process data indicative of the dip as well as the tool face angle from the directional sensors 40 (see Fig. 6). The step of using one of a gyroscope, a magnetometer and an accelerometer is anticipated by col. 8, lines

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53+, where known techniques such as accelerometer is being called for. The claimed drill bit is clearly anticipated by Fig. 10, where drill bit 32 is used for penetrating a formation. The claimed nuclear or resistivity sensors in the respective claimed is met by col. 1, lines 46+, and col. 3, lines 56+ respectively. The gamma ray device taught in col. 3, line 57, meets the density measurement device.

### ***Allowable Subject Matter***

Claims 21, 22, 29, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-17, and 30-33 are allowed.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Molnar, Shirasaka et al, and Robbins et al all show downhole measurement apparatus and methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank S Tsay whose telephone number is (703) 308-2170. The examiner can normally be reached on Monday thru Friday, 7:30am-5:00 pm, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J Bagnell can be reached on (703)308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Frank S Tsay  
Primary Examiner  
Art Unit 3672

4/1/05